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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|-------------|----------------------|---------------------|------------------|
| 09/852,090 | 05/10/2001 | Hirokazu Yamagata | 12732-037001 | 5147 |
| 26171 | 7590 | 08/08/2006 | | EXAMINER |
| FISH & RICHARDSON P.C. P.O. BOX 1022 MINNEAPOLIS, MN 55440-1022 | | | | LIN, JAMES |
| | | | ART UNIT | PAPER NUMBER |
| | | | 1762 | |

DATE MAILED: 08/08/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

| | | |
|-----------------|-----------------|--|
| Application No. | Applicant(s) | |
| 09/852,090 | YAMAGATA ET AL. | |
| Examiner | Art Unit | |
| Jimmy Lin | 1762 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) Responsive to communication(s) filed on 24 July 2006.
2a) This action is FINAL. 2b) This action is non-final.
3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) Claim(s) 5,18,23,28 and 33 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) Claim(s) _____ is/are allowed.
6) Claim(s) 5,18,23,28 and 33 is/are rejected.
7) Claim(s) _____ is/are objected to.
8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) The specification is objected to by the Examiner.
10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) All b) Some * c) None of:
1. Certified copies of the priority documents have been received.
2. Certified copies of the priority documents have been received in Application No. _____.
3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) Notice of References Cited (PTO-892)
2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 6/27/06.

4) Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
5) Notice of Informal Patent Application (PTO-152)
6) Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 5, 18, and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sato (JP 7-142169). (Ueda et al. (U.S. Patent 6,468,676) is cited as evidence regarding claim 23.)

Sato teaches a method of manufacturing an active matrix light emitting device [0048], the method comprising:

forming a hole injection layer 3, which may be a conductive polymer [0014];

forming a blue luminous layer 4 comprising a first luminous material;

forming a red luminous layer 5c comprising a second luminous material and a dopant over and in contact with the blue luminous layer by evaporation [0036];

forming a green luminous layer 5d comprising a second luminous material over the red luminous layer (Fig. 3);

wherein white light is emitted from the red, green, and blue luminous layers [0006].

The red and green luminous layer can have the same luminous material, such as Alq₃ [0068].

Layer 5d is not explicitly taught or explained as being a specific color. However, from the context, layer 5d must be the green layer. Sato teaches that his invention is characterized by a green luminous layer containing a red fluorochrome [0009]. In Fig. 1, the green layer 5 is partially doped with a red fluorochrome. Fig. 3 shows an example of the green layer doped with the red layer 5c [0036]. Therefore, layer 5d must be the green layer containing the red fluorochrome (i.e., the red layer 5c) because the invention of Sato is characterized as such.

Sato teaches that the red and green layer can both use Alq as the luminous material, but does not teach stopping the evaporation of the dopant while continuing the evaporation of Alq when depositing the green layer. To produce a layer of Alq with a red dopant and then a layer of

Alq alone, the evaporation of the dopant must be stopped. Thus, the evaporation of the doped layer must proceed either 1) by stopping the evaporation of the dopant while continuing the evaporation of the host Alq material or 2) by stopping the evaporation of both materials and restarting evaporation of the host. Sato does not explicitly state which possibility is used.

Mueller Brass Co. v. Reading Industries (176 USPQ 361, p. 369) states that in judging the level of ordinary skill in the art, it is the level of those who normally attack the problems of the art that counts; persons who do most of the problem solving in involved art are graduate engineers; as such they are chargeable with general knowledge concerning principles of engineering outside the narrow field involved and with the skills, ingenuity, and competence of the average professional engineer. One of ordinary skill in the art would have understood that stopping and restarting the evaporation of the host organic material would necessarily have taken longer than merely continuing the evaporation, and that an increase in the time of production would necessarily have reduced the number of light-emitting devices manufactured per unit time (production rate). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have continued the evaporation of the host organic material while stopping the evaporation of the dopant in order to have minimized the process time, and therefore maximized the production rate.

Claim 18: The second luminous material can be Alq₃ [0068].

Claim 23: DCM1 is an organic fluorescent material [0064]. (See also Ueda, col. 34, lines 18-35).

3. Claim 28 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sato '169, as applied to claim 5 above, and further in view of Singh et al. (U.S. Patent 6,228,228). (Thompson et al. (U.S. Patent 6,413,656) is cited as evidence.)

Sato is discussed above, but does not teach that the dopant in the red layer is phosphorescent. However, Singh demonstrates that red light-emitting layers may be formed by doping Alq with PtOEP (col. 10, lines 26-33). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have used PtOEP as a dopant to form a red EL layer instead of DCM as disclosed by Sato with a reasonable expectation of success and with the expectation of similar results because Singh demonstrates the art recognized

suitability of Alq/PtOEP layers as red EL layers, and the selection of a known material based on its suitability for its intended use has been held to support a *prima facie* case of obviousness. *Sinclair & Carroll Co. v. Interchemical Corp.*, 325 U.S. 327, 65 USPQ 297 (1945). See MPEP 2144.07. Thompson teaches that PtOEP is phosphorescent (col. 4, lines 18-22).

4. Claim 33 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sato '169, as applied to claim 5 above, and further in view of Yamada et al. (U.S. Patent 6,215,462).

Sato discusses some uses of the EL devices [0080], but does not specifically teach that the EL device is incorporated into a video camera, digital camera, goggle display, car navigation system, sound reproduction system, notebook PC, game apparatus, portable information terminal or image playback device.

Yamada teaches that organic EL devices are useful as the displays in the image playback portions of cameras (col. 4, lines 46-60). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have incorporated the EL device of Sato into an image playback device with a reasonable expectation of success because Yamada teaches that organic EL devices may be used in image playback devices (i.e., a specific machine requiring a display interface between man and machine).

Response to Arguments

5. Applicant's arguments with respect to claims 5, 18, 23, 28, and 33 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period

Art Unit: 1762

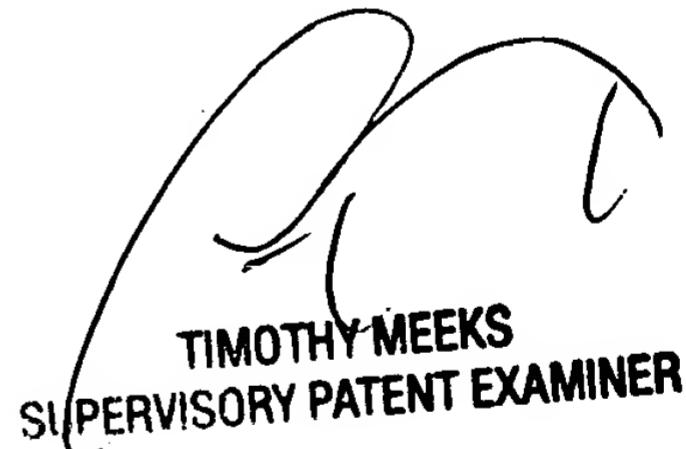
will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jimmy Lin whose telephone number is 571-272-8902. The examiner can normally be reached on Monday thru Thursday 8 - 5:30 and Friday 8 - 4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tim Meeks can be reached on 571-272-1423. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

8/3/06



TIMOTHY MEEKS
SUPERVISORY PATENT EXAMINER